

Mitigation Measure or Project Condition	Timing	Responsible for Implementing Mitigations	Responsible for Insuring Implementation	Required for Task to Be Complete (Deliverable)	Signature of Responsible Party and Date of Completion
Project Condition Air-1					
All active construction areas will be watered at least twice daily during dry, dusty conditions.	During construction	Contractor	Construction manager	Watering	
All trucks hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard.	During construction	Contractor	Construction manager	Covering/freeboard	
All equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all State and federal requirements.	During construction	Contractor	Construction manager	Engines tuned	
Excavation and grading activities will be suspended when sustained winds exceed 25 miles mph, instantaneous gusts exceed 35 mph, or dust from construction might obscure driver visibility on public roads.	During construction	Contractor	Construction manager	Activities suspended when applicable	
Earth or other material that has been transported onto paved streets by trucks, construction equipment, erosion, or other project-related activity will be promptly removed.	During construction	Contractor	Construction manager	Clean up	
Mitigation Measure Bio-1: Marbled Murrelet					
<ul style="list-style-type: none">No project construction-related activities shall occur during the breeding season (March 24 through September 15) in sites located within ¼ mile of potential nesting trees, to avoid direct or indirect (noise) take of marbled murrelets, unless otherwise negotiated with the California Department of Fish and Game and U. S. Fish and Wildlife Service.	During construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Avoidance	
<ul style="list-style-type: none">All construction related activities shall not begin until 2 hours after sunrise and shall cease 2 hours before sunset.	During construction	Contractor	Construction manager	Hours implemented	
<ul style="list-style-type: none">No trees greater than 12 inches diameter at breast height (dbh) shall be removed as a result of this project.	During construction	Contractor	Construction manager	Avoidance	
<ul style="list-style-type: none">All tree removal work will occur between September 1 and February 1 to protect nesting birds, unless otherwise negotiated with the California Department of Fish and Game and the U. S. Fish and Wildlife Service.	During construction	Contractor	Construction manager; DPR-qualified biologist	Scheduling	
<ul style="list-style-type: none">Construction personnel will be trained by a DPR-qualified biologist in the life history of the marbled murrelet and its habitat.	Prior to construction	DPR-qualified biologist	Construction manager; DPR-qualified biologist	Training	
Mitigation Measure Bio-2: Nesting Raptors					
<ul style="list-style-type: none">If construction-related activities are scheduled to begin February 1 through August 31 (nesting season), a focused survey for raptor nests will be conducted by a DPR-qualified biologist during the nesting season to identify active nests within 500 feet of the project area. The survey will be conducted within 30 days prior to the beginning of construction.	Prior to construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Survey	
<ul style="list-style-type: none">If nesting raptors are found, no construction will occur within a 500-foot radius of the nest tree during the active nesting season of February 1 through August 31, or until the young have fledged (as determined by a DPR-qualified biologist), unless otherwise negotiated with the California Department of Fish and Game.	During construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Avoidance	

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<ul style="list-style-type: none">All tree removal work will occur between September 1 and February 1 to protect nesting raptors, unless otherwise negotiated with the California Department of Fish and Game and the U. S. Fish and Wildlife Service.	During construction	Contractor; DPR-qualified biologist	Construction manager	Scheduling	
Mitigation Measure Bio-3: Migratory Bird Species					
<ul style="list-style-type: none">If construction-related activities are scheduled to begin during the nesting season of March 1 to September 15, a DPR-qualified biologist will conduct a survey for nesting bird species within 14 days prior to commencement of construction at each site to ensure that no nesting birds will be impacted by the project. The survey area will include the project site and at least a 100-foot zone around it.	Prior to construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Survey	
<ul style="list-style-type: none">If active nests are located, all construction disturbance activities within a 100-foot radius (or as negotiated with DFG on a case-by-case basis, based upon species and location of nest) of the nest tree shall be postponed until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting.	During construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Avoidance	
<ul style="list-style-type: none">All tree removal work will occur between September 1 and February 1 to protect nesting birds, unless otherwise negotiated with the California Department of Fish and Game and the U. S. Fish and Wildlife Service.	During construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Scheduling	
Mitigation Measure Bio-4: Coast Horned Lizard					
<ul style="list-style-type: none">A morning site inspection for coast horned lizards will be conducted by a DPR-qualified biologist prior to the start of construction each day that construction is scheduled in coast horned lizard habitat.	During construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Inspections	
<ul style="list-style-type: none">If a coast horned lizard is found within the project area, construction in that location will cease until the animal has moved out of the construction area of its own accord, or is removed from the site by a qualified biologist.	During construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Avoidance/removal if applicable	
<ul style="list-style-type: none">Construction activity within coast horned lizard habitat will also be spot checked during the work day by a DPR-qualified biologist.	During construction	DPR-qualified biologist	DPR-qualified biologist	Inspections	
<ul style="list-style-type: none">Project excavations will be covered at night with plastic, or another approved method that prevents animals from being trapped.	During construction	Contractor	Construction manager	Excavations covered	
<ul style="list-style-type: none">Construction personnel will be instructed by a DPR-qualified biologist in the life history of the coast horned lizard and its habitat.	Prior to construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Training	
Mitigation Measure Bio-5: Santa Cruz Kangaroo Rat					
<ul style="list-style-type: none">A morning site inspection for the Santa Cruz kangaroo rat will be conducted by a DPR-qualified biologist prior to the start of construction each day that construction is scheduled in Santa Cruz kangaroo rat habitat.	During construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Inspections	
<ul style="list-style-type: none">If a Santa Cruz kangaroo rat is found within the project area, construction in that location will cease until the animal has moved out of the construction area of its own accord, unless otherwise negotiated with the California Department of Fish and Game.	During construction	Contractor	Construction manager; DPR-qualified biologist	Avoidance	

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• Construction activity within Santa Cruz kangaroo rat habitat will also be spot checked during the workday by a DPR-qualified biologist.	During construction	DPR-qualified biologist	DPR-qualified biologist	Inspections	
• Project excavations will be covered at night with plastic, or another approved method that prevents animals from being trapped.	During construction	Contractor	Construction manager	Excavations covered	
• Construction personnel will be instructed by a DPR-qualified biologist in the life history of the Santa Cruz kangaroo rat and its habitat.	Prior to construction	Contractor; DPR-qualified biologist	Construction manager; DPR-qualified biologist	Training	
Mitigation Measure Bio-6: California Red-legged Frog					
• Immediately prior to the start of work each morning, a USFWS-approved biologist or DPR-qualified biologist will conduct a visual inspection of the construction zone, prior to the start of work.	During construction	DPR-qualified biologist	Construction manager; DPR-qualified biologist	Inspections	
• Construction activity within the project site will also be spot checked during the workday by a USFWS-approved biologist or a DPR-qualified biologist.	During construction	DPR-qualified biologist	DPR-qualified biologist	Inspections	
• If a California red-legged frog is found, start of work at that project site would be delayed until the species moves out of the site on it own accord, or is temporarily relocated by a USFWS-approved biologist.	During construction	Approved biologist	DPR-qualified biologist	Avoidance	
• Project excavations will be covered at night with plastic, or another approved method that prevents animals from being trapped.	During construction	Contractor	Construction manager	Excavations covered	
• Construction personnel will be instructed by a qualified biologist in the life history of the California red-legged frog and its habitat, and instruction in the appropriate protocol to follow in the event that a California red-legged frog is found onsite.	Prior to construction	Contractor; qualified biologist	Construction manager; DPR-qualified biologist	Training	
Mitigation Measure Bio-7: Sensitive Natural Communities					
• Within the root health zone (5 times dbh) of any native tree with a dbh of 24 inches or greater, no roots with a diameter of one inch or greater will be cut.	Design; during construction	Desginer; contractor	Construction manager	Avoidance	
Project Condition Cult-1: Historic Resources					
• Prior to the start of construction the road will be flagged by the DPR archaeologist assigned to the project to insure the resource is identifiable to construction workers. The operation of heavy equipment will not be allowed on the grade and it will not be used as a staging area for construction supplies.	Prior to construction; during construction	DPR archaeologist; contractor	Construction manager; DPR archaeologist	Roads flagged	
• During construction activities, a DPR-qualified archaeologist will monitor all ground disturbing activities in the Upper Residence including the vicinity of the grade.	During construction	DPR archaeologist; contractor	Construction manager; DPR archaeologist	Monitoring	
Project Condition Cult-2: Historic Resources					
• Measures will be taken to properly record the Panoramic Tank prior to abandonment, including the production of as-built drawings.	Prior to construction; during construction	DPR Project Manager	DPR Project Manager	As-built drawings; photodocumentation	

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<ul style="list-style-type: none">Future use in another capacity (water storage for fire emergencies) will be facilitated by the district. This would aid in the process of slowing down the decay.	Post-construction	Santa Cruz District	Santa Cruz District	Future use	
Project Condition Cult-3: Archaeological Resources					
<ul style="list-style-type: none">All ground disruption including but not limited to trenching, excavation, and the use of heavy equipment will be monitored by a DPR-qualified archaeologist in the Upper and Lower Residence areas, and the Panoramic Tank area.	During construction	Contractor; DPR archaeologist	Construction manager; DPR archaeologist	Monitoring	
<ul style="list-style-type: none">No ground disturbing activities including the operation of heavy equipment will be allowed north of the cement retaining wall behind the structures located on the north side of the road in the Upper Residence area.	During construction	Contractor	Construction manager	Avoidance	
<ul style="list-style-type: none">The DPR archaeologist assigned to the project will be notified a minimum of three weeks prior to the start of ground disturbing activities (in culturally sensitive areas that require archaeological monitoring) to schedule and conduct monitoring.	Prior to and during construction	Contractor	Construction manager	Monitoring	
Project Condition Cult-4: Archaeological Resources					
<ul style="list-style-type: none">Road preparation for transport of the new tank to the installation site adjacent to the Panoramic Tank will not include widening or leveling the historic road grade.	During construction	Contractor	Construction manager	Avoidance	
Project Condition Cult-5: Archaeological Resources					
<ul style="list-style-type: none">All staging areas will be pre-approved by the DPR cultural resources specialist assigned to the project.	Prior to and during construction	Contractor; DPR cultural resources specialist	Construction manager; DPR archaeologist	Preapproval of staging areas	
Project Condition Cult-6: Archaeological Resources					
<ul style="list-style-type: none">In the event that previously unknown cultural resources (including but not limited to dark soil containing shellfish, bone, flakes stone, ground stone, or deposits of historic trash) are encountered during project construction by anyone, the state representative will put work on hold at that specific location and contractors will be redirected to other tasks. A DPR-qualified archaeologist will record and evaluate the find and work with the state representative to implement avoidance, preservation, and recovery measures as appropriate prior to any work resuming at that specific location.	During construction	Contractor	Construction manager	Work stopped; evaluation as applicable	
<ul style="list-style-type: none">If significant cultural resources are found during construction activities, a DPR-qualified historian, archaeologist and/or Native American representative (if appropriate) will monitor all subsurface work including trenching, grading, and excavation in the area of the find.	During construction	Contractor	Construction manager; DPR archaeologist	Monitoring as applicable	
Project Condition Cult-7: Archaeological Resources					
<ul style="list-style-type: none">Any design changes or expansion of the project that will include additional ground disturbing activities will be approved by the DPR cultural resource specialist/s assigned to the project.	Design; during construction	Designer; project manager	Project manager	Approval of changes	

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<ul style="list-style-type: none">Necessary changes in design will be reported in a timely manner to the cultural resource specialist/s so appropriate conditions/mitigations can be implemented prior to the start of construction.	Design; during construction	Designer; project manager	Project manager	Approval of changes	
Project Condition Cult-8: Archaeological Resources					
<ul style="list-style-type: none">In the event that human remains are discovered, work will cease immediately in the area of the find and the project manger/site supervisor will notify the appropriate DPR personnel. Any human remains and/or funerary objects will be left in place or returned to the point of discovery and covered with soil. The DPR District Superintendent (or authorized representative) will notify the County Coroner, in accordance with 7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (or Tribal Representative). If a Native American monitor is on-site at the time of the discovery, the monitor will be responsible for notifying the appropriate Native American authorities.	During construction	Contractor	Construction manager	Work stopped as applicable; notification	
<ul style="list-style-type: none">If the coroner or tribal representative determines the remains represent Native American interment, the Native American Heritage Commission in Sacramento and/or tribe would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work would not resume in the area of the find until proper disposition is complete (PRC 5097.98). No human remains or funerary objects will be cleaned, photographed, analyzed, or removed from the site prior to determination.	During construction	DPR cultural resources specialist; contractor	Construction manager; DPR archaeologist	Consultation as applicable	
<ul style="list-style-type: none">If it is determined the find indicates a sacred or religious site; the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Officer and review by the Native American Heritage Commission/Tribal Cultural representatives will also occur as necessary to define mitigation measures or future restrictions.	During construction	DPR cultural resources specialist	Construction manager; DPR archaeologist	Avoidance, consultation as applicable	
Mitigation Measure Geo-1: Seismic Building Requirements					
<ul style="list-style-type: none">The proposed water tank must conform to earthquake design requirements. Tank and foundation design will follow the applicable regulations and design practices of the American Water Works Association Design Standards.	Design	Designer	Designer	Proper design	
<ul style="list-style-type: none">Any new equipment installed as part of the water system treatment upgrades would be secured to the walls and/or floor in the existing water treatment building to prevent damage in the event of a large earthquake.	Design; during construction	Designer; contractor	Designer; construction manager	Equipment secured	
<ul style="list-style-type: none">State Park staff would inspect the water supply system for damage as soon as feasible after a large earthquake.	Post-construction	Park staff	Park staff	Inspection as applicable	
Project Condition Geo-1: Erosion Control					

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<ul style="list-style-type: none">Best Management Practices (BMPs) will be used in all areas to control soil and surface water runoff during excavation, grading, and trenching. Whenever possible grading and excavation activities will not be planned during the rainy season (October 15 to April 15), but if storms are anticipated during construction or if construction must occur during the wet season, “winterizing” will occur, including the covering (tarping) of any stockpiled soils and the use of temporary erosion control methods to protect disturbed soil. Temporary erosion control measures (BMPs) will be used during all soil disturbing activities and until all disturbed soil has been stabilized (re-compacted, re-vegetated, etc.) These BMPs will include, but not be limited to, the use of silt fences, straw bales, or straw or rice coir rolls, to prevent soil loss and siltation into nearby water bodies.	During construction	Contractor	Construction manager	BMPs implemented	
<ul style="list-style-type: none">Permanent BMPs for erosion control will consist of properly compacting disturbed areas and re-vegetation of appropriate disturbed soil areas with native species using seed collected locally. Final design plans will include BMP measures to be incorporated into the project.	Design; during construction	Designer; contractor	Project manager	BMPs designed and implemented	
Project Condition Hazmat-1: Pollution Prevention					
<ul style="list-style-type: none">All equipment will be inspected by the contractor for leaks immediately prior to the start of construction, and regularly inspected thereafter until equipment is removed from Park premises.	During construction	Contractor	Construction manager	Inspection	
<ul style="list-style-type: none">The contractor(s) will prepare an emergency Water Pollution Control Plan prior to the start of construction and maintain a spill kit on-site throughout the life of the project. This plan will include a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment may occur. Areas designated for refueling, lubrication, and maintenance of equipment shall be at least 50 feet from any creeks. In the event of any spill or release of any chemical in any physical form at the project site or within the boundaries of Big Basin Redwoods State Park during construction, the contractor would immediately notify the appropriate DPR staff (e.g., project manager, supervisor, or State Representative).	Prior to and during construction	Contractor	Construction manager	Plan prepared and implemented; notification as applicable	
<ul style="list-style-type: none">Equipment will be cleaned and repaired (other than emergency repairs) outside the Park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds will be disposed of outside Park boundaries, at a lawfully permitted or authorized destination.	During construction	Contractor	Construction manager	Avoidance	
<ul style="list-style-type: none">Dust generated by any surface preparation work will be contained indoors. Workers will use appropriate personal protection gear compliant with Cal/OSHA standards.	During construction	Contractor	Construction manager	Containment	
Project Condition Hazmat-2					
A Worker Safety Plan will be developed and reviewed by all project staff prior to the start of any work. Job site characteristics to reduce the potential for fire would be included such as, but not limited to, those discussed below:	Prior to construction	Project manager; contractor	Construction manager	Plan developed and implemented	
<ul style="list-style-type: none">Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers would be required for all heavy equipment.	During construction	Contractor	Construction manager	Plan developed and implemented	

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<ul style="list-style-type: none">Construction crews would be required to park vehicles away from flammable material, such as dry grass and brush. At the end of each workday, heavy equipment would be parked over mineral soil, asphalt, or concrete to reduce the chance of fire.	During construction	Contractor	Construction manager	Plan developed and implemented	
<ul style="list-style-type: none">The Worker Safety Plan will provide guidelines for the proper use, storage, and disposal of any flammable materials used during the project work.	During construction	Contractor	Construction manager	Plan developed and implemented	
Project Condition Hydro-1: Water Quality					
<ul style="list-style-type: none">Implementation of Project Condition Geo-1 will provide Best Management Practices (BMPs) to control erosion and runoff during project construction and post-construction into nearby creeks.	During construction	See above	See above	See above	
<ul style="list-style-type: none">Implementation of Project Condition Hazmat-1 will reduce impacts to water quality from possible pollutants (fuels and other vehicle fluids released from vehicles and heavy equipment during construction).	During construction	See above	See above	See above	
Project Condition Noise-1					
<ul style="list-style-type: none">Construction activities will generally be limited to the hours between 7 a.m. and 6 p.m., daily.	During construction	Contractor	Construction manager	Hours limited	
<ul style="list-style-type: none">Internal combustion engines used for any purpose at the job site will be equipped with an exhaust muffler of a type recommended by the manufacturer. Equipment and trucks used for construction will utilize the best available noise control techniques (e.g., engine enclosures, acoustically attenuating shields or shrouds, intake silencers, ducts, etc.) whenever feasible and necessary.	During construction	Contractor	Construction manager	Proper equipment	
Stationary noise sources and staging areas will be located as far from Park visitors as possible. If they must be located near visitors, stationary noise sources will be muffled to the extent feasible and/or, where practicable, located within temporary noise reducing enclosures.	During construction	Contractor	Construction manager	Proper location	